Evaluation and Analysis of NVIDIA's Financial Performance: Based on DuPont Analysis

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Abstract. This paper gives a clear review of NVIDIA Corporation's financial performance using the DuPont analysis method, with Return on Equity (ROE) as the focus. ROE is broken down into three parts: net profit margin, asset turnover, and equity multiplier. The study looks at how each part affected NVIDIA's results from fiscal year (FY) 2021 to 2024. The results show that NVIDIA had strong profits, especially in 2024, mainly because of big growth in its AI and data center businesses. Asset turnover stayed mostly the same, since the company has a capital-heavy business model. The equity multiplier showed that NVIDIA used a careful level of debt. Based on this, the paper suggests that NVIDIA could try to use its assets more efficiently and think about using a bit more debt to raise returns for shareholders. These findings help people better understand how NVIDIA is doing financially and what it might do in the future as a leading tech company.

Keywords: Return on Equity, DuPont Analysis, Financial Structure Optimization.

1. Introduction

NVIDIA Corporation (NVIDIA) is a well-known company that makes graphics processors (GPUs) and develops artificial intelligence (AI) technology. It was founded in 1993. Its products are used in many areas, including gaming, data centers, self-driving cars, professional graphics, and healthcare. By 2025, NVIDIA still holds a strong position in AI and high-performance computing. It leads to both new technology and market growth. Although companies like AMD and Intel also launch new products, NVIDIA stays ahead by being one of the first in AI and by keeping up steady improvements [1].

While NVIDIA's rapid growth and profitability are evident, it is crucial to conduct a comprehensive analysis of its financial performance, particularly through the metric of return on equity (ROE). In the modern corporate financial analysis system, ROE serves as a vital indicator of profitability, measuring how efficiently shareholder equity is utilized and informing strategic decisions [2]. It not only provides a benchmark for investors to assess returns but also aids corporate management in optimizing resources and enhancing operational performance. Therefore, a detailed analysis of ROE—its meaning, components, and influencing factors—offers both theoretical and practical value for promoting sustainable enterprise development [3]. This paper analyzes NVIDIA's profitability through DuPont analysis, aiming to uncover the drivers of its ROE, and thereby reveal insights into operational efficiency, asset utilization, and financial leverage [4].

The paper is structured as follows: Section 2 introduces NVIDIA's history and current operations; Section 3 provides a detailed DuPont analysis; Section 4 outlines strategic recommendations; and Section 5 concludes with key findings.

2. Basic Information of NVIDIA

2.1. History of NVIDIA

NVIDIA Corporation was founded in 1993 in Santa Clara, California. Initially focused on graphics processor development, its 1999 launch of GeForce 256—dubbed the world's first GPU—marked a breakthrough in real-time graphics. Over time, NVIDIA expanded into AI, data centers, autonomous vehicles, and edge computing. Notably, the acquisition of Mellanox and investments in software platforms have reinforced its leadership in AI infrastructure [4].

2.2. Operating State

NVIDIA's operating profile is strong, particularly in the AI and datacenter markets, which are growing rapidly. NVIDIA's total revenue in FY2024 was $60.9 billion, up 126% from total revenue of $26.9 billion in FY2023. NVIDIA's net income for FY2024 reached $29.6 billion, up 581% year-over-year.

Data Centre business accounted for 78% of total revenue, amounting to $47.6 billion, up 217% year-over-year. NVIDIA's revenue in the gaming business was moderate growth at $10.6 billion, up 15% year-over-year. NVIDIA's gross margin reached 72.7% in FY2024, a significant increase from 56.9% in FY2023. NVIDIA's growth came primarily from a surge in demand for its H100 and A100 AI chips, which drove the overall profit and market cap leap [1,5].

3. Financial performance of NVIDIA

3.1. Analysis of Net Profit Margin

Net profit margin, calculated as net profit divided by operating revenue, indicates how much profit is retained per unit of revenue. During FY2021 to FY2024, NVIDIA’s net profit margin from 25.98% to 48.85%, which can be seen in Figure 1. Apart from experiencing a shock in 2023, NVIDIA’s net profit margin exhibited consistent growth from FY2021 to FY2024, reflecting strong cost control, product leadership, and market dominance. High margins signal exceptional profitability, a core strength in enhancing shareholder value [5,6].

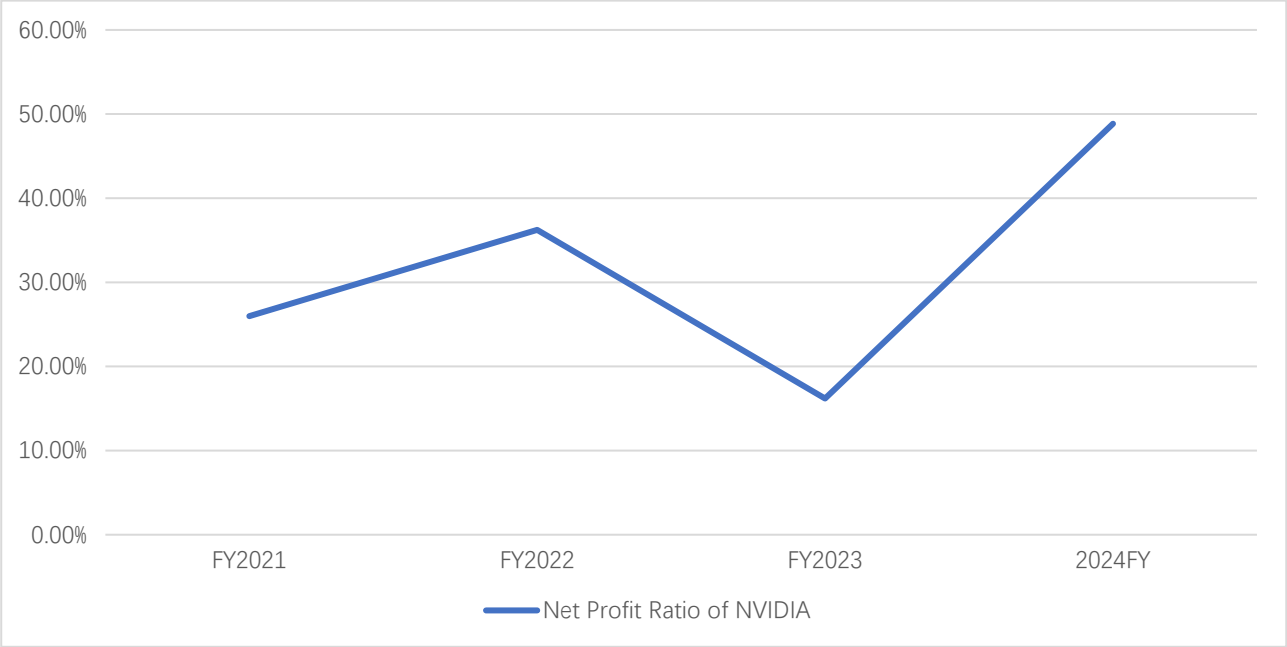

Fig. 1 Net Profit Ratio Indicator of NVIDIA for the Period from FY2021 to FY2024

3.2. Analysis of Total Asset Turnover

Total asset turnover is the ratio of operating revenue to average total assets, reflecting the operational efficiency and turnover speed of a company's assets. A higher total asset turnover ratio indicates that a company can achieve higher sales revenues with fewer assets and more efficient asset utilization. Nvidia's total asset turnover ratio remained relatively stable at 0.6 from FY2021 to FY2023 and reached 0.85 in FY2024, which can be seen in Figure 2. As a technology company, Nvidia's lower total asset turnover ratio is due to the large amount of investment in technology research and development capital. The stable total asset turnover ratio shows the stability of Nvidia at the decision-making level and sales level of the company [3,7].

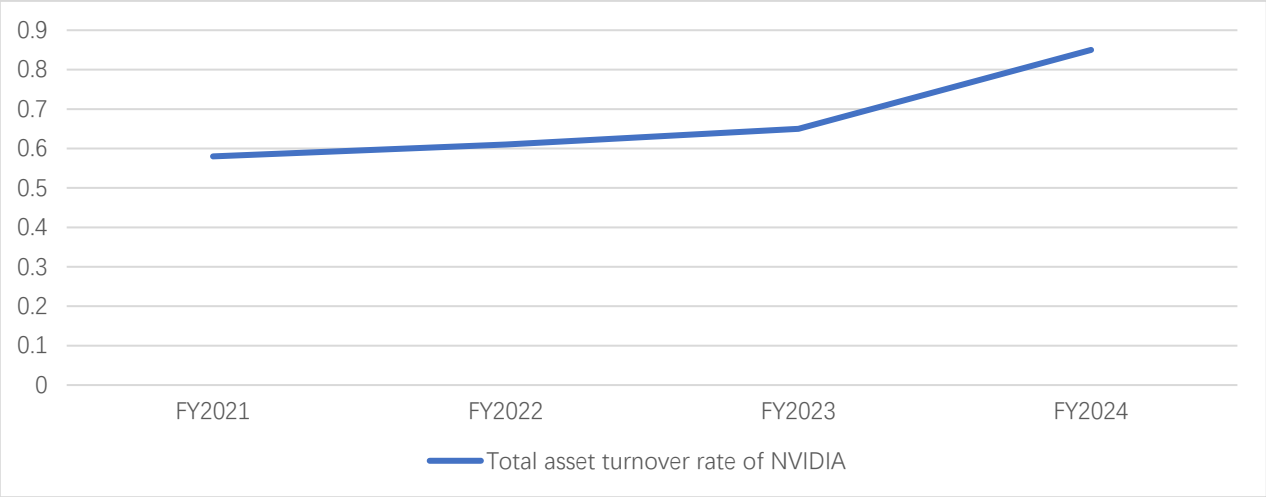

Fig. 2 Total Asset Overturn indicators of NVIDIA for the Period from FY2021 to FY2024

3.3. Analysis of Equity Multiplier

The equity multiplier is the ratio of an enterprise's total assets to shareholders' equity and reflects the degree of financial leverage of the enterprise. A high equity multiplier implies that an enterprise makes greater use of debt financing to expand its assets, which may magnify the level of return on shareholders' equity. However, a high equity multiplier also implies that a company faces higher financial risks, which may lead to difficulties in repaying debts or even financial crises in the event of poor business operations or unfavorable changes in the market environment. Nvidia's equity multiplier fluctuates from FY2021 to FY2024, with the lowest point occurring in FY2023, which can be shown in Figure 3. Nvidia's equity multiplier indicates that the company's dependence on debt and the company's reliance on debt varies from year to year, reflecting the company's strategic choices based on specific circumstances and market environment. A consistently low equity multiplier means that Nvidia relies more on equity financing than debt financing, which implies that Nvidia is a relatively low-risk company, but at the same time, this may also affect the company's growth momentum and market expansion [8].

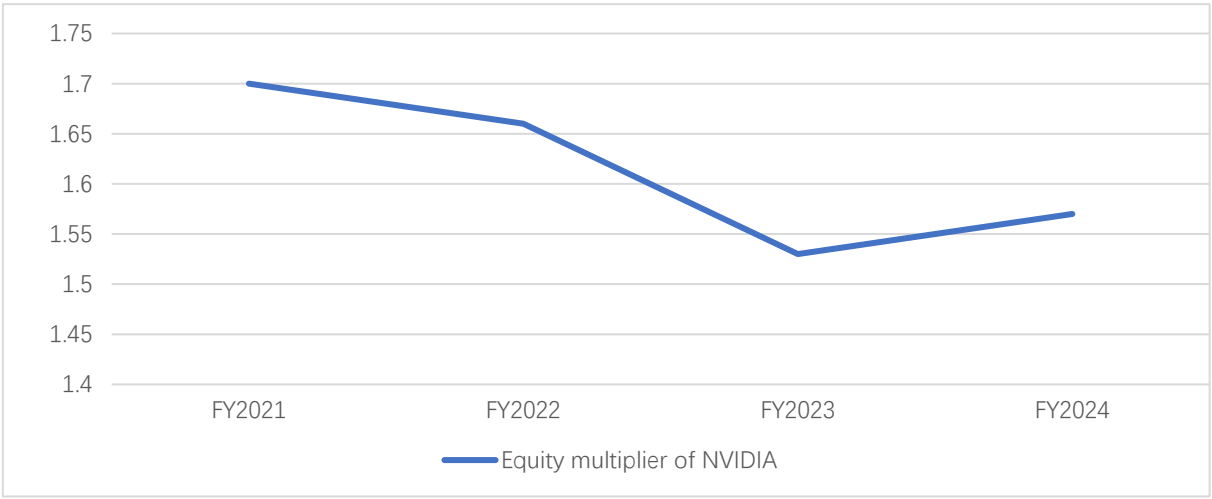

Fig. 3 Equity Multiplier Indicators of NVIDIA for the Period from FY2021 to FY2024

3.4. Analysis of Return on Equity

As the most core part of DuPont analysis, return on net equity can best reflect the core profitability of an enterprise [2]. In the modern enterprise financial analysis system, return on net equity, as a core financial indicator, is of vital significance in assessing the profitability of an enterprise, measuring the efficiency of the utilization of shareholders' equity as well as guiding the strategic decision-

making of an enterprise. Nvidia's very high ROE indicates that the company is not only highly profitable, but also highly competitive in terms of operating efficiency of its assets and capital. As shown in Figure 4, Nvidia's ROE is 17.93% in FY2023 and 91.46% in FY2024. The low point of Nvidia's ROE in FY2023 is associated with a low net sales margin and a low equity multiplier in the same year. But in FY2024, strong ROE growth reflects Nvidia's strong profitability and extreme resilience [4,6].

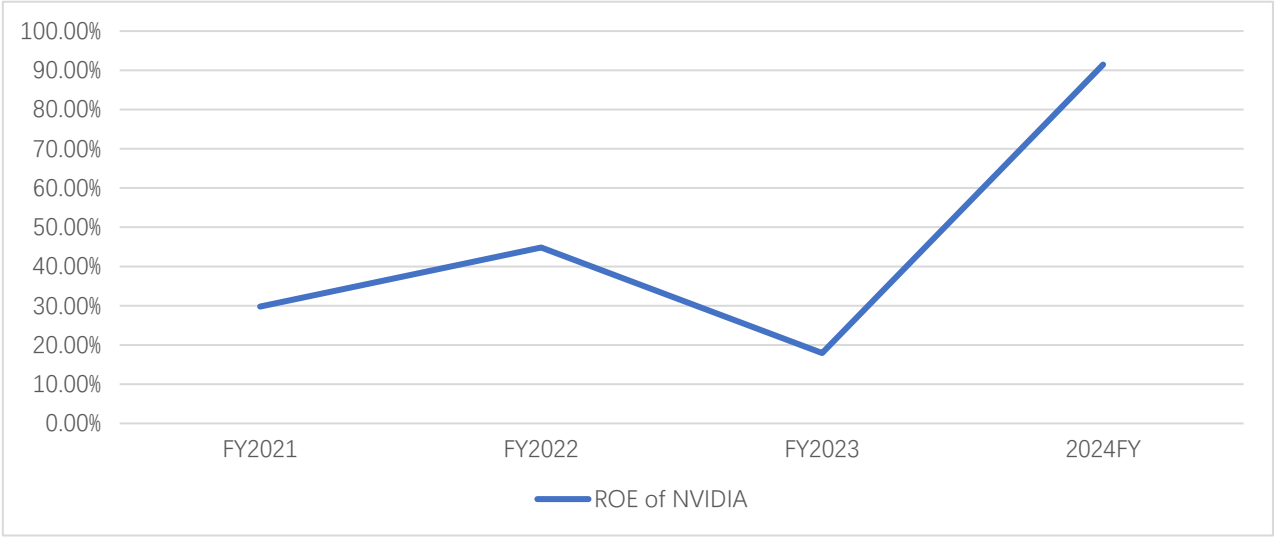

Fig. 4 ROE of NVIDIA from FY2021 to FY2024

4. Recommendations for NVIDIA's Growth

Although NVIDIA's profitability is very strong, its total asset turnover is relatively average. It is recommended to further streamline or optimize its asset structure, such as strengthening asset management efficiency, accelerating turnover cycles, especially at the inventory and supply chain levels, and improving overall operational efficiency [9].

NVIDIA should steadily increase leverage levels and expand capital effects. At present, NVIDIA's equity multiplier is low and there is more room for the use of financial leverage. On the premise of controllable risk, the company can moderately increase debt financing for technology research and development and market expansion to enhance shareholder returns [7,10].

5. Conclusion

This paper sets out to explore and evaluate NVIDIA’s financial performance through the lens of the DuPont analysis framework, with a particular focus on Return on Equity (ROE) as a measure of profitability and operational efficiency. Through this investigation, we aimed to understand the contributing factors behind NVIDIA's financial success and to provide strategic insights based on quantitative data from fiscal years FY2021 to FY2024. In doing so, the research reviewed the company's historical background and current operating status, analyzed the three main components of ROE—net profit margin, asset turnover, and equity multiplier—and assessed how these metrics evolved over time and influenced overall ROE.

Our findings show that NVIDIA kept a strong and growing net profit margin during the period, which means it stayed highly profitable. Its asset turnover stayed fairly low, since the business needs a lot of assets, especially for research and development. The equity multiplier changed a bit but stayed at a moderate level, showing that NVIDIA used debt carefully. This helped to keep the company stable but may have limited some growth. Most importantly, NVIDIA’s ROE was very high in FY2024. This was mainly because of a strong profit margin and better use of debt, showing that the company managed its money and resources well. Overall, the analysis shows that NVIDIA is doing

well in AI and high-performance computing, and smart use of capital has helped increase value for its shareholders.

Based on these results, we have two main suggestions. First, NVIDIA should work on using its assets more efficiently. For example, it can try to manage inventory and its supply chain better to improve how it runs day to day. Second, the company could think about using a bit more debt, but only in a careful way to avoid too much risk. This could involve greater use of debt financing to support R&D investments and strategic expansions, thereby amplifying returns to shareholders while maintaining financial discipline. These strategic adjustments would support long-term, sustainable growth and reinforce the firm's leadership in the global technology sector.

The value of this research is that it provides valuable insights for investors who want to gain a deeper understanding of NVIDIA's financial structure and operational performance, as well as a practical framework for analyzing high-growth technology companies.

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